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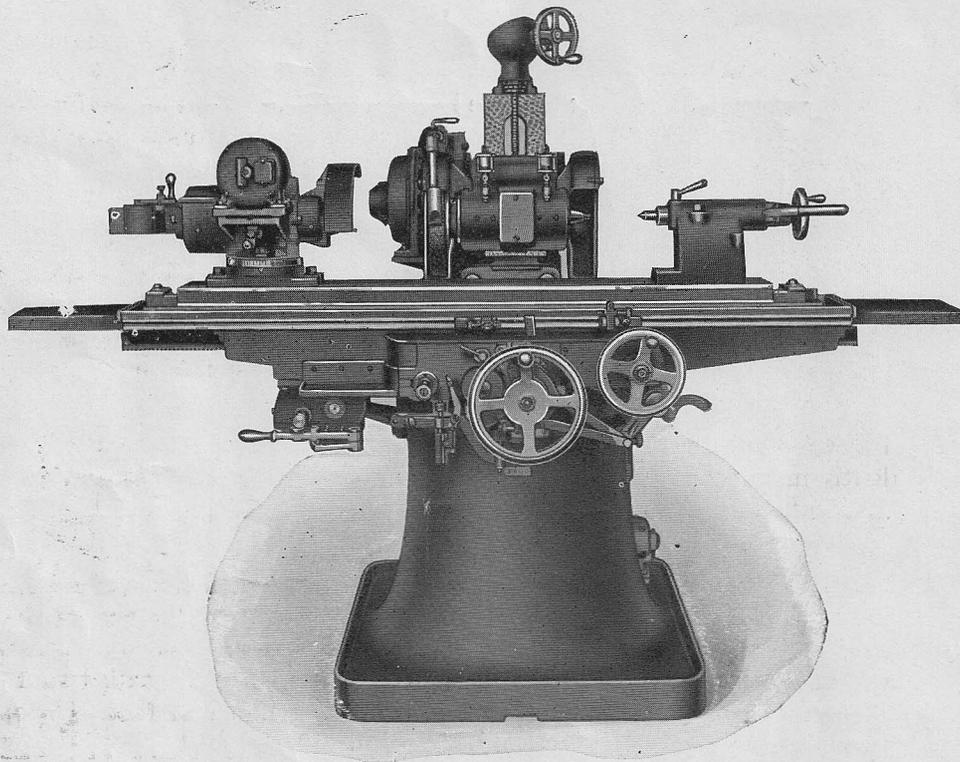
BATH

UNIVERSAL GRINDER

A TRULY VERSATILE MACHINE

REPAIR PARTS

FITCHBURG GRINDING MACHINE CORPORATION
FITCHBURG, MASS., U. S. A.



THE IMPROVED BATH FULL UNIVERSAL GRINDER

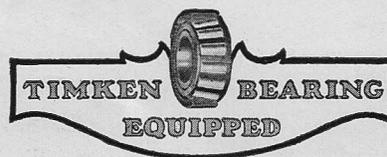
The new motor drive has not only been improved in its motor application but the surface attachment has been changed for simpler and more rugged support. The traverse gear box has been redesigned for longer wear and the reversing mechanism has been revamped.

The BATH is much more universal than the ordinary universal grinder. All the attachments are easily applied and a "Break-up" on a job can be quickly done.

We can go beyond the limits of the specifications for special applications at a minimum of cost.

Write us for a proposal on your difficult job.

We also manufacture the Cammatic and Fitchburg Plain Cylindrical Grinders.





DESCRIPTION

WHEEL HEAD: Has vertical movement only and is supported on a rugged column bolted to the base of the machine. The spindle is of S. A. E. steel heat treated, ground and lapped. The bearings are self aligning adjustable for wear of special "SABECO" bearing metal. The elevating screw is provided with micrometer hand wheel reading to .001".

HEADSTOCK: Is self contained with built-in motor and five speed changes by means of a sliding key. The spindle can be operated for live or dead center work. The front bearing is adjustable and also of "Sabeco" bearing metal. The rear bearing is Timkenized. The final drive to the face plate or chuck is through helical gears. The base is graduated to swivel 90°.

TABLE: Traverse has five speeds through a sliding key gear box which is independently motor driven. The ways have large wearing surfaces and the oil is distributed evenly by rolls and grooves.

SWIVEL TABLE: Swings on a central stud which is hardened and ground to fit a hardened and ground bushing in the table. The swivel is clamped at both ends and pulled down at the center by a point screw. The top surface has a V-way to insure alignment of the head and footstocks with two T slots. It is graduated on the end in taper per foot up to 2 $\frac{3}{4}$ " per foot. Clamps are furnished for setting the swivel table up to 45°.

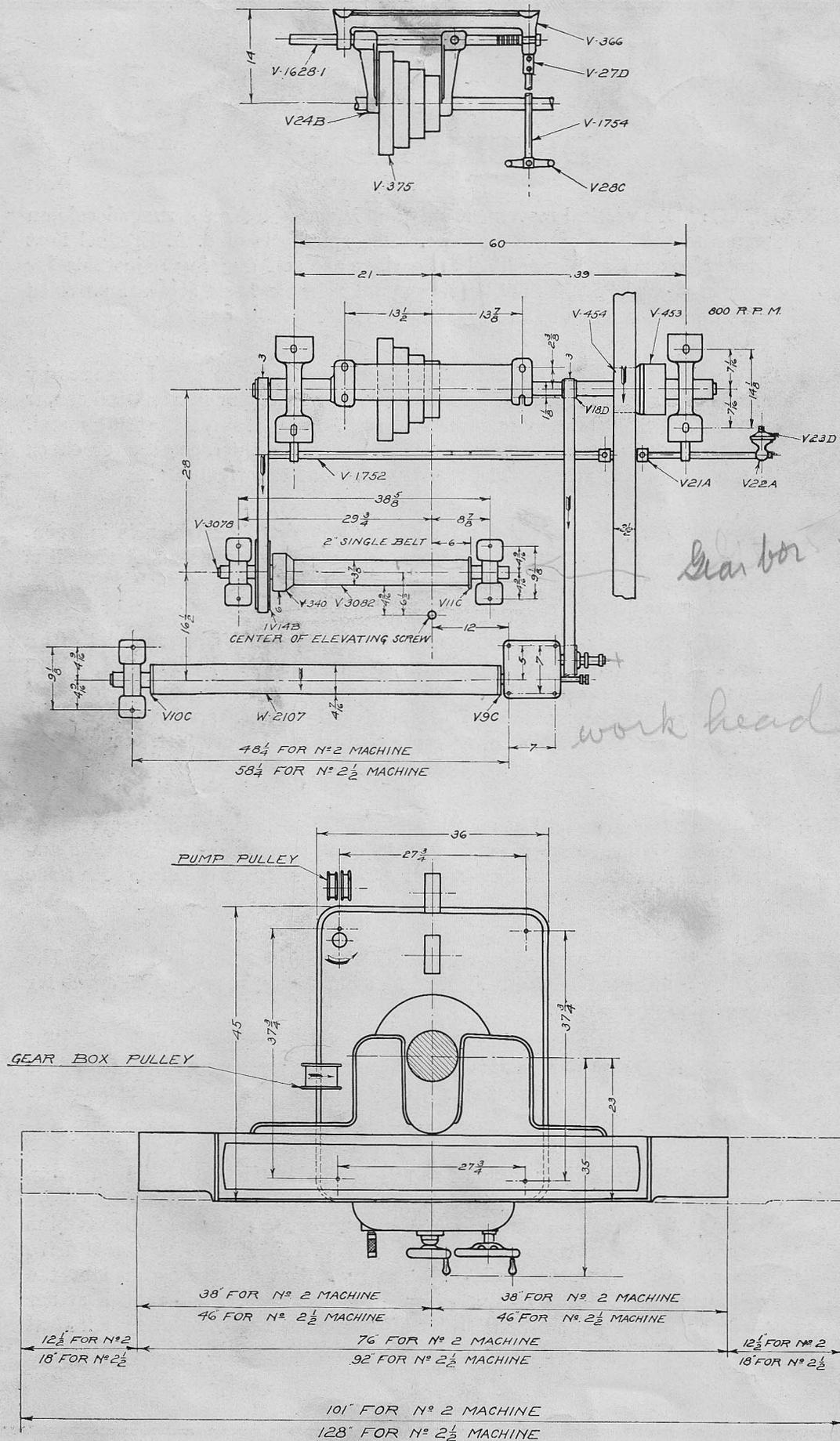
FEEDS: The automatic cross feed has a range of .00025" to .0025" at each reversal of the table. When complete surface attachment is ordered the automatic surface feed is furnished, has a range of .0025" to .025" at either or both table reversals.

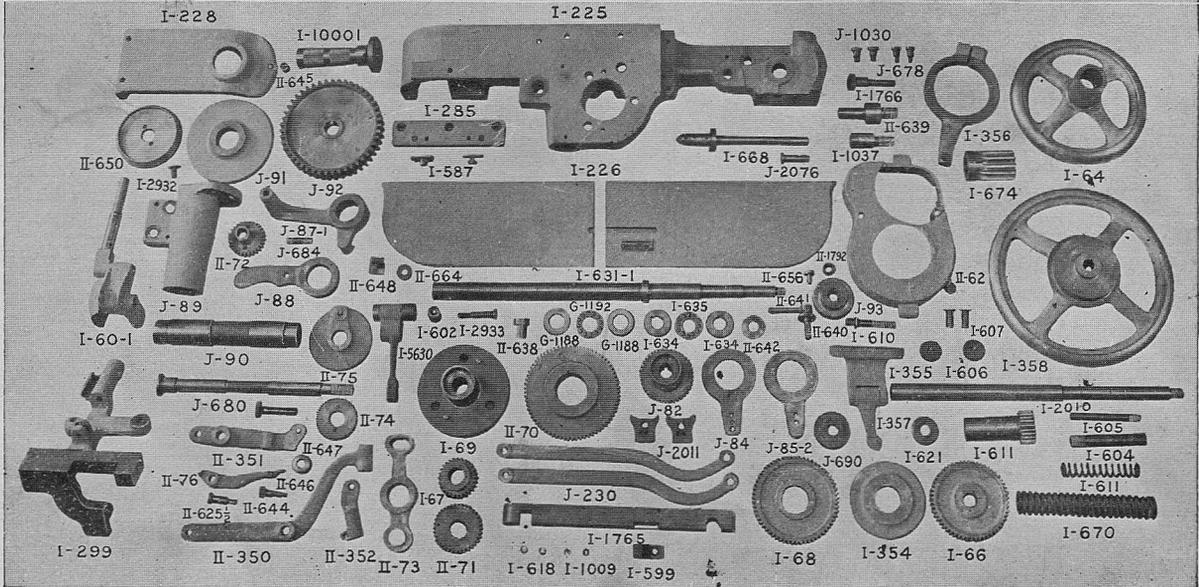
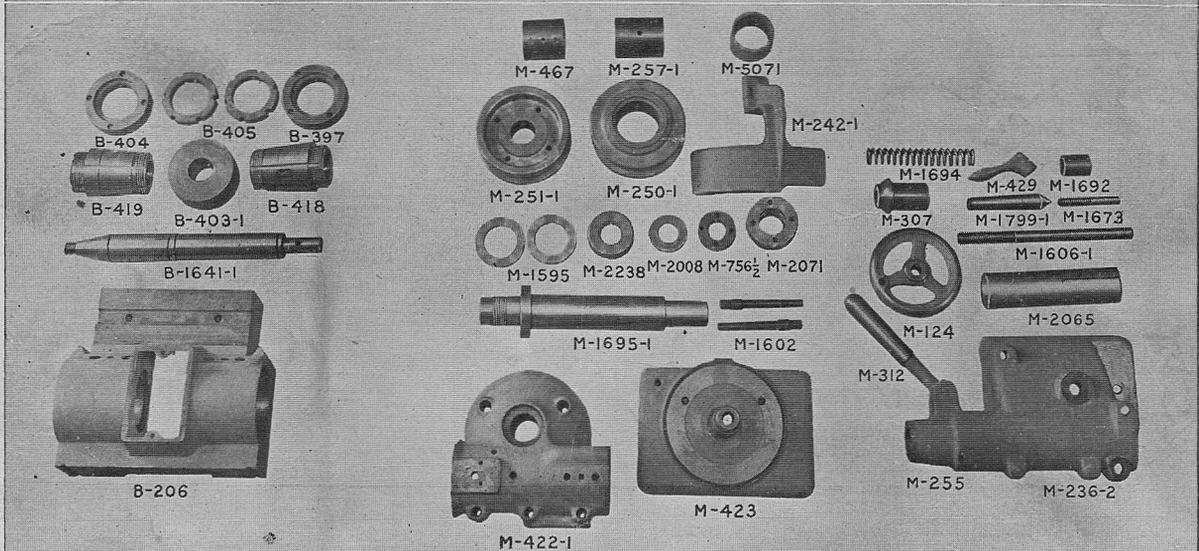
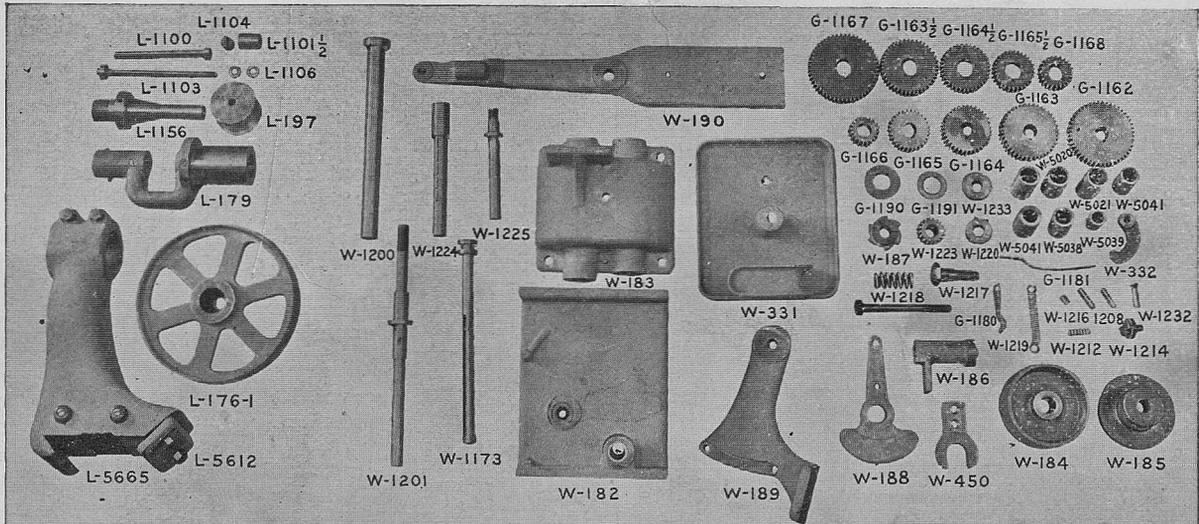
FOOTSTOCK: Spindle is operated by variable tension spring controlled lever. The tension is adjusted by handwheel. The spindle may be readily clamped for supporting the center.

WET GRINDING: The tank is built into the base of the machine with an abundant supply of water. Coolant is supplied by a motor driven pump attached to the base.

MOTORS: The $\frac{1}{4}$ H. P. headstock motor and $\frac{1}{4}$ H. P. built in motor driven pump are included in machine equipment. The 3 H. P. 1725 R.P.M. spindle drive motor is supported on double arms built unto the column of the machine with rope drive to the spindle. The $\frac{3}{4}$ H. P. 1725 R. P. M. traverse drive motor is attached to the knee. The last two motors are furnished by the customer and should be totally enclosed balanced motors and applied at our factory. When motors and electrical equipment are completely wired at our factory we must make an extra charge for doing this.

FOUNDATION PLAN





REPAIR PARTS

FOR No. 2 AND 2½ BELT DRIVEN BATH GRINDER

SPINDLE HEAD

	Old No.	
B 5		Inner Adj. Nut
B 206-2	405	Spindle Head
B 397		R. H. Outer Adj. Nut
B 403-1		Spindle Driving Pulley
B 404		L. H. Outer Adj. Nut
B 418-1		R. H. Spindle Box
B 419-1		L. H. Spindle Box
B 1641-1		Wheel Spindle

GEAR BOX

	Old No.	
G 43	1167	52 T. Variable Speed Gear
G 44	1163½	42 T. " " "
G 45	1164½	36 T. " " "
G 46	1165½	30 T. " " "
G 47	1168	24 T. " " "
G 53	1166	20 T. Constant " "
G 54	1165	30 T. " " "
G 55	1164	36 T. " " "
G 56	1163	42 T. " " "
G 57	1162	48 T. " " "
G 63		Sliding Key
G 65	1181	" " Spring
G 1190		Gear Spring Washer

APRON

I 60-2		Reverse Rocker
I 64		Traverse Handwheel
I 66		56 T. Handwheel Shaft Gear
I 67		Handwheel Compound Stud Pinion
I 68		62 T. Handwheel " Stud Gear
I 69		Cross Screw Flange Bearing
I 225		Apron
I 226		" Cover
I 228		Traverse Handwheel Gear Cover
I 285		Reverse Bar Retainer
I 354		Stop Lever Retainer
I 355		Stop Bracket
I 356		" Lever
I 357		Handwheel Stop
I 358		Cross Screw Handwheel
I 587		Reverse Bar Roller Bearing
I 602		Dog Reverse Lever Roll
I 604		" " " Stud
I 605		Reverse Rocker Stud
I 607		" " " Pin
I 611		Traverse Handwheel Pinion
I 618		Reverse Lever Handle Pin Bushing
I 621		Traverse Handwheel Retainer
I 631-1		Cross Screw

APRON

	Old No.	
I 634		Front Ball Thrust Washer
I 635		" " Cage
I 668		Reverse Operating Plunger
I 674		Traverse Handwheel Pinion
I 1000-1		Reverse Lever Rocker Handle
I 1037		Compound Gear Stud
I 1766		Stop Lever Clamp Screw
I 2010		Traverse Handwheel Shaft
I 2933		Reverse Roll Pivot Stud
I 5630		" Dog Lever
J 56	I 2932	Spring Ret. Screw
J 97	I 599	Reverse Bar V Block
J 100	I 606	" Rocker Roller
J 103	I 609	" Bar and Plunger Roller
J 109	I 670	" Oper. Plunger Spring

5-SPEED WORK DRIVE COUNTERSHAFT

	Old No.	
1 W 6	185	Friction Clutch
W 16	332	Ratchet Pawl
1 W 16	2233	Clutch Spring Tension Nut
1 W 23	1218	" Oper. Spring
W 32	1216	Quadrant Lever Plunger
W 34	1217	" " Stud
W 48	1212	" " Spring
W 182-1		Upper Half Box
W 183-1		Lower " "
W 184		Friction Clutch Pulley
W 186-1		" " Shipper
W 187		" " " Ratchet Wheel
W 188		Ratchet Oper. Lever
W 189-1		Quadrant
W 190		" Lever
W 450		Clutch Shipper Yoke
W 1173		Sliding Key Shaft
W 1200		Variable Speed Hollow Shaft
W 1201-1		Clutch Pulley Shaft
W 1219		Ratchet Lever Spring
W 1220		Clutch Pulley Retainer
W 1223		Driving Pinion
W 1224		Constant Speed Shaft, Lower Half
W 1232		Pawl Pivot Pin
W 5020		Variable Shaft R. H. Bushing, Lower Half
W 5021		" " L. H. " " "
W 5038		Pulley Shaft R. H. Bushing, Upper Half
W 5039-1		" " L. H. " " "
W 5041		Clutch Pulley Bushing

AUTO. CYL. CROSS FEED

	Old No.	
II 62		Gear Guard
II 70		Cross Screw Ratchet Gear
II 71		35 T. Intermediate Gear
II 72		Dial Driving Gear
II 73		Gear Rocker
II 74		Knock-Off Adj. Gear
II 75		Ratchet Wheel Cover
II 76		Feed Pawl
II 350		Operating Lever
II 351		" " Short
II 352		Pawl Plunger Guide
II 625½		" Pivot Stud
II 638		Intermediate Gear Stud
II 639		Rocker Stud
II 640		Cross Feed Rocker Clamp
II 641		Rocker Clamp Handle
II 642		Ratchet Cover Ret. Washer
II 645		Knock-Off Ret. Nut
II 646		" " Pinion Shaft
II 647		" " Adj. Knob
II 648		Knock-Off
II 650		Ratchet Wheel
II 656		Pawl Plunger
II 664		Adj. Screw Lock Nut
II 1792		Pawl Plunger Guide Roller
I 299		Cyl. Feed Bracket
J 101		Pawl Tooth
J 125 II 644		Knock-Off Pinion

AUTO. SURFACE FEED

	Old No.	
J 82		Cross Screw Ratchet Gear
J 84		Pawl Carrier Lever
J 85-2		Offset Pawl Carrier Lever
J 87.1		Conn. Link Lever
J 88		Spacer Lever
J 89		Surface Feed Bracket
J 90		Friction Disc Quill
J 91		" Disc
J 92		47 T. Driving Gear
J 93		Friction Clamp Nut
J 111 680		Pawl Plunger Spring
J 230		Conn. Link
J 678		Pawl Stud
J 684		Spacer Lever Stud
J 690		Gear Shaft Washer
J 1030		Conn. Link Stud
J 2011		Feed Pawl
J 2076		Conn. Link Lever Pin

INTERNAL ATTACHMENT

	Old No.	
L 3	176	Spindle Driving Pulley
L 5	179	" Frame
L 6	197	Frame Pulley
L 13	1101½	Spindle Thrust Plug
L 17	1100	Frame Spindle
L 20	1104	Spindle Driving Nut
L 24	1156	" Sleeve
L 25	1103	Wheel Spindle
L 26	1106	" " Thrust Washer
L 5665		Arm
L 5786 5612		Arm Clamp

10" HEADSTOCK BELT DRIVE

	Old No.	
M 20	756½	Swivel Clamp Nut
M 24		" " Thrust Washer
1 M 31 1602		Taper Dowel Pin
M 242-1		Water Guard
M 250-1		Dead Centre Loose Pulley
M 251-1		Tight Pulley
M 257-1		Front Bushing
M 422-1		Swivel
M 423		Base
M 467-1		Rear Bushing
M 1595		Thrust Washer
M 1695-1		Spindle
M 2071		Spindle Sleeve
M 2238		" Adj. Nut
M 5071		Loose Pulley Bushing

10" FOOTSTOCK

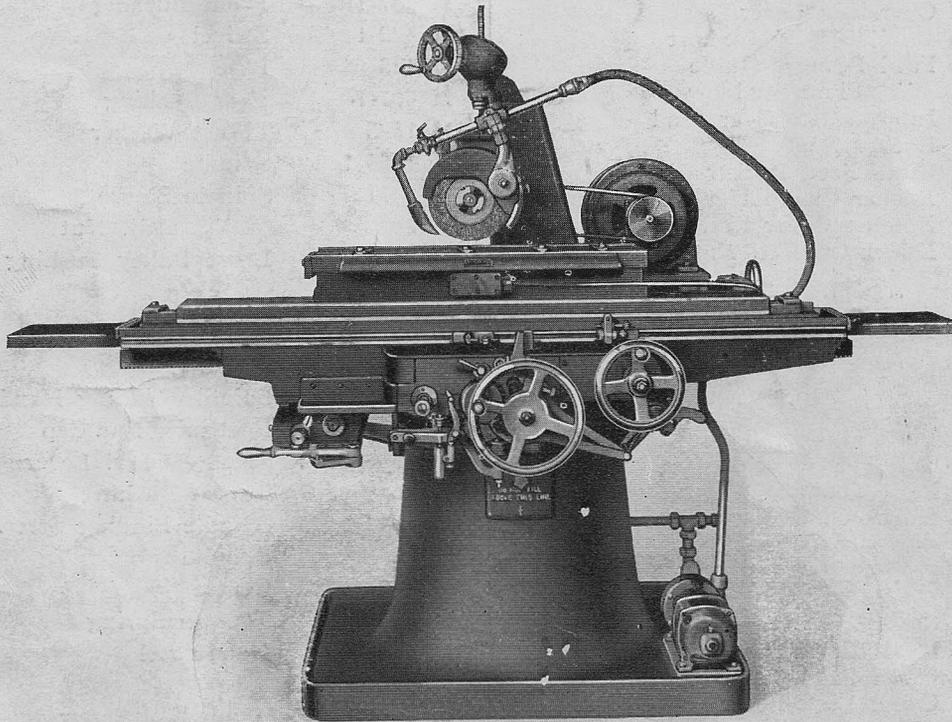
	Old No.	
M 33	429	Spindle Binding Handle
M 34	255	Footstock End Cap
M 35	312	Spindle Oper. Lever
M 36	307	Thrust Bushing
M 39	1673	Spindle Binding Screw
M 42	2065	Spindle
M 44	1799	Centre
M 45	1694	Tension Spring
M 124		Handwheel
M 236-2		Base
M 1606-1		Handwheel Screw

12" HEADSTOCK BELT DRIVE

M 2		Base
M 3		Swivel
M 6		Loose Pulley
M 8		Tight Pulley
M 11		Water Guard
M 12		Spindle Bearing
M 13		Loose Pulley Bushing
M 18		Taper Dowel Pin
M 21		Spindle Adj. Nut
M 22		Spindle Sleeve
M 25		Spindle
M 26		R. H. Spindle Thrust Washer
M 27		L. H. " " "

12" FOOTSTOCK

M 37		Hand Wheel
M 38		Spindle Nut
M 41		Clamp Bolt
M 43		Hand Wheel Screw
M 47		Diamond Base Clamp Sc.



Motor Drive Machine arranged for Surface Grinding

The BATH equipped for surface grinding will do all that any single purpose grinder will do within its corresponding range.

The knee, cross slide and table swivels around 90° on the top of the 30" diameter base which brings the traversal of the table at right angles to to the wheel spindle.

A coarse automatic cross feed is furnished with this equipment, which further makes of this machine a complete surface grinder.

An 8" diameter wheel is standard with this equipment but we can furnish 12" x 1" on application.

